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## **SPECIFICITY OF WORK IN SCRUM-BASED TEAMS AS ILLUSTRATED BY COMPANY X**

### **Introduction**

Nowadays, teamwork plays an important role in achieving corporate goals. Proper teamwork is one of the key factors that influence its success – this is because of fast changes in company operations to which it has to adapt in a flexible way in order to meet the expectations of the environment. The company should not remain behind its competitors; quite the contrary – it has to meet customer expectations to win the competitive struggle. A team of workers with varied qualifications is an important element that contributes to company's success. Moreover, teamwork triggers synergy that cannot be achieved by individual work. Nevertheless, such a teamwork must be adequately prepared and its members should be provided with appropriate atmosphere, communication and motivation to act.

Scrum methodology, which is based on iterative work, is one of teamwork methods. Scrum is a set of principles whose aim is to result in an intended purpose. In order to apply this method, a cohesive team is necessary where there is no clear hierarchy. It is a self-organizing team. This is helpful in the management of complex processes and effective achievement of the target.

The aim of the article is to analyze the specificity of Scrum teamwork as illustrated by Company X<sup>1</sup>.

### **1. The concept of teamwork in Scrum-based methodology**

At present, there is a growing popularity of work teams. The trend is caused by the fact that teams frequently have better results than individual workers. Tasks to be done require a

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<sup>1</sup> Company X is a software developer for the entertainment industry – as the article does not reveal the name of the company under analysis, it is referred to as Company X. The article is a synthesis of research conducted within the framework of Dorota Szpilka's undergraduate thesis which was supervised by Dominika Woźny Ph.D. and defended in The School of Banking and Management on 5.07.2022.

variety of skills and experience. That is why organizations choose this work model to more effectively use the talents of their employees and achieve the intended objectives<sup>2</sup>.

One of teamwork methods is the Scrum iterative method. Scrum methodology is used in several areas that are characterized by complexity of tasks. Initially, it was used in software development. Currently, it is used by developers, researchers, analysts, scholars and other specialists.<sup>3</sup>

Scrum refers to a set of rules that focus on iterative work which results in the development of a product – i.e. something that should work in the long term. The basic difference from other methodologies is that Scrum principles are based on a cohesive team that is built by competences; this means that there is no hierarchy in the team and every opinion is equally important<sup>4</sup>.

The features of Scrum are as follows<sup>5</sup>:

- Scrum is Agile. This means that working with this method involves understanding and supporting values and principles that are included in the Agile Manifesto<sup>6</sup>. It is crucial that each of them is respected.
- Scrum is a framework of operations, i.e. it is a set of simple rules that make it possible to obtain a quick feedback that will determine the stage of the product development and inform whether it is ready to implement and how the process is working.
- Scrum is a team sport. It is based on small teams that have a common goal and can achieve it.
- Scrum is iterative, i.e. it makes it possible to provide values in short periods of time referred to as Sprints.
- Scrum makes it possible to solve problems, i.e. complex issues that are neither easy nor obvious.
- Scrum uses empirical process control, i.e. it enables the collection of feedback and the reaction to it.

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<sup>2</sup> S. P. Robbins, *Zachowania w organizacji*, Polskie Wydawnictwo Ekonomiczne, Warszawa 2004, p. 197.

<sup>3</sup> K. Schwaber, J. Sutherland, *Scrum Guide. The Definitive Guide to Scrum: The Rules of the Game*, <https://scrumguides.org/docs/scrumguide/v2020/2020-Scrum-Guide-US.pdf>, p. 1 (Accessed: 25 August 2021).

<sup>4</sup> M. Żeromski, *Budowanie Zespołu. Młotek Scrum Mastera*, Helion, Gliwice 2020, p. 11.

<sup>5</sup> T. de Jastrzębiec Wykowski, *Biznes Odczarowany. Scrum: jak osiągnąć cele, gdy wszystko się zmienia?*, ProCognita, Kraków 2019, pp. 42-43.

<sup>6</sup> The Manifesto for Agile Software Development, i.e. Agile Manifesto, was published in 2001 and it includes basic principles of agile project management.

The structure of Scrum methodology is based on three elements: three roles, three ceremonies and three artefacts<sup>7</sup>:

- roles:
  - Product Owner – accountable for the introduction of requirements and the assignment of task priorities,
  - Scrum Master – accountable for implementing and respecting Scrum principles,
  - Scrum Team – accountable for the product increment in line with the goal.
- ceremonies:
  - Sprint Planning Meeting – planning tasks for a particular Sprint,
  - Sprint Review Meeting – presenting the outcome of work within a Sprint,
  - Daily Scrum Meeting – organizing information in the team and planning work for the day.
- artefacts:
  - Product Backlog – a list of tasks to be done to achieve the intended goal,
  - Sprint Backlog – a plan for the nearest iteration,
  - Burndown Chart – a graphical presentation of work left to do by the end of the Sprint.

A key feature of work in a Scrum-based team is the fact that it is performed in Sprints, i.e. short iterations limited to a period of one week up to one month. In the course of each iteration, a self-organizing cross-functional team does the necessary work which includes designing, developing and testing. Only after these operations can the product be manufactured.<sup>8</sup>

Each Sprint should have a clearly defined goal, while the range of work can be subject to change in the course of the Team's work as it receives new information.<sup>9</sup>

A Scrum process begins with product registration, which means grouping the features by priorities and other factors necessary to complete the product. The most important elements always come first. Thus, when resources, e.g. time, are exhausted, the uncompleted work will have less priority than the completed one.

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<sup>7</sup> P. Wyrozębski, *Metodyka SCRUM* [in:] M. Trocki (ed.), *Metodyki zarządzania projektami*, Wydawnictwo Bizarre, Warszawa 2011, p. 254.

<sup>8</sup> K. S. Rubin, *Scrum. Praktyczny przewodnik po najpopularniejszej metodyce Agile*, Helion, Gliwice 2013, pp. 4-5.

<sup>9</sup> K. Kaczor, *Scrum i nie tylko. Teoria i praktyka w metodach Agile*, Wydawnictwo Naukowe PWN, Warszawa 2014, p. 115.

In the final phase of the iteration, the team and the stakeholders inspect the product features for any comments. This allows for making adjustments in the next Sprint, that is a specific time of the task performance.

At the end of each iteration, the team should have a product that is potentially ready for implementation – that is one that can be launched on the market when necessary.

After the completion of each iteration, the process is repeated starting with the planning of the next iteration.<sup>10</sup>

The objective of Scrum events is to create regularity and minimize other meetings that are not defined in the method. All the meetings have time limitations, which means that a maximum time duration is specified and – which is important – it is always the same. There are no opportunities to make meetings longer or shorter. However, to avoid a waste of time, other events are completed when the intended goal is reached.<sup>11</sup>

There are only three roles in a Scrum team. This is in line with the principle of limiting the number of roles in the organization. People identify quickly with their roles so they will personally listen to any comments. Due to a small number of roles, Scrum tries to ensure that the accountability and decision-making processes rest within the Scrum team. Moreover, teams work more effectively when their goal is clear and there is a person responsible for setting priorities so that the team is not blocked by indecisiveness.<sup>12</sup>

The usefulness of Scrum is continuously increasing due to a rapidly growing complexity in technologies, market and environmental changes and their interactions. Despite its numerous advantages, the Scrum method will not work in every organization. Therefore, it is necessary to analyze the functioning of the company in order to identify the possibility to use this methodology.

## **2. Work analysis of Scrum team in Company X**

In October 2021 a survey was conducted among the employees of Company X to learn the opinion of Scrum team members on the principles and effectiveness of the Scrum methodology. The survey questionnaire consisted of 15 main questions and 2 demographic ones. The respondents answered the main questions which started with “how do you evaluate...” and the answers to choose were “good” or “bad”

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<sup>10</sup> K. S. Rubin, *Scrum. Praktyczny przewodnik...*, op. cit., pp. 34-35.

<sup>11</sup> K. Schwaber, J. Sutherland, *Scrum Guide...*, op. cit., p. 8. (Accessed: 25 August 2021).

<sup>12</sup> T. de Jastrzębiec Wykowski, *Biznes Odczarowany...*, op. cit., p. 91.

There were 62 respondents; 73% worked in Scrum for more than 2 years. 19% of respondents worked in this method for less than a year, while 8% worked between 1 – 2 years. 68% of respondents worked only in one company that used Scrum; 19% worked in two companies and 13% used Scrum in more than two companies.

A vast majority of respondents (87%) assessed positively the degree of decision making in the team, while 13% respondents evaluated it negatively. The independence in the team also obtained a vast number of positive ratings (84%). The self-organization of the team, which is a key element of the Scrum methodology, was evaluated positively by 89% of respondents.

The support level of the team members is at a very high level (97%). A vast majority of respondents (94%) assessed the communication in the time as positive. These ratings demonstrate a success in building a team that works effectively thanks to the collaboration and understanding of the team members. Communication in every team is the most important factor of its proper functioning.

The specification of Sprint Goal received 68% of positive ratings. This activity should be improved so that everybody could feel the responsibility for the goal. Corrective activities should also concern the timeliness of task completion by the team which was assessed positively only by 63% of the respondents.

The highest rating from among Scrum events was received by Daily Scrum (87%). 77% employees rated the commitment of team members as good. The majority of respondents (85%) rated positively the team presentation during Sprint Reviews. However, the significance of Sprint Retrospective was assessed negatively by 34%. 60% of respondents rated positively the transparency of Sprint Backlog.

The highest ratings regarding Scrum roles were given to the Developer Team (97%). This testifies to the fact that the company has specialists who do their job perfectly. Cooperation with Product Owner is at satisfactory level – it was rated positively by 73%. The lowest ratings in the whole survey were received by Scrum Master's support. His work was rated positively only by 48%. This shows that some necessary measures should be taken to improve this role. The improvement in this area will result in even greater efficiency of work and in maintaining communication in the team at a high level.

### **3. A proposal to improve the functioning of the Scrum team in Company X**

Following the analysis of the survey, some aspects can be noticed that require improvements in the company so that the team can work to its full potential and in line with the Scrum methodology.

The role of Scrum Master requires the greatest improvement as it received only 48% of positive ratings.

Scrum Master has a lot of responsibility in the team as he supervises the work and makes sure that the team works in accordance with the established principles, presides over the Scrum events and acts as an intermediary between Product Owner and Developer Team. As a result, he should have the necessary knowledge on Scrum as well as the specifics of a particular teamwork. In the case under investigation, the survey was conducted in a company that develops software for the entertainment industry. Therefore, the knowledge in this field is necessary to understand issues that may emerge and discuss them substantively with other team members, particularly with Developer Team. Thus, Scrum Master should expand knowledge and take care of the continuous development of his competences.

In the course of Scrum meetings, Scrum Master should ask numerous questions to encourage the search for solutions that may differ from the ones that are already applied. Breaking the status quo helps to understand the sense of doing a given work. This leads to full transparency of work and consequently to a more efficient completion of the task.

Scrum Master should create a partnership relation between the team members and be an authority and support for them.

Scrum Master is responsible for the course of Scrum events. In some cases, team members are dissatisfied with the events as they do not receive satisfactory information. This leads to the feeling that there is no point in having the meetings. However, the use of Scrum methodology is impossible without the events. Therefore, Scrum Master should make sure that the meetings suit the team. Problems may emerge when Scrum Master does not control the duration of a meeting and the meeting is too long, which leads to fatigue and information overload; as a result team members do not know how to use the excessive information. Conversely, too short meetings do not make it possible to fully discuss some issues and team members have the feeling that their problems are not in the focus of attention.

One of the key tasks of Scrum Master is to provide feedback; this is difficult as it requires impartiality and the lack of favoritism. It is also unacceptable to impose solutions on the team. Scrum Master's task is to stimulate the team to act and open new paths of creativity through

asking questions, giving rational arguments, discussing issues and concluding, which results in better, more effective and innovative work.

The lack of high ratings of Scrum Master in the surveyed group may also be caused by overreactions, excessive interventions and taking over the competences of other team members. This leads to bad relationships and gloomy atmosphere. The responsibility of Scrum Master is to protect the team in critical situations. Scrum Master should not solve minor problems that can be dealt with by developers. He is needed when there is an obstacle that makes work impossible or when a conflict appears in the team.

Not everybody who knows Scrum principles can become a Scrum Master. The role requires both soft and hard skills. As regards soft skills, Scrum Master should be characterized by communication skills, humility, patience and assertiveness. The company should arrange adequate trainings in the area of these competencies or to provide the employee with a mentor or a coach. It is extremely important that these skills are checked already in the recruitment process.

The problem with supporting the team may appear when one Scrum Master deals with several teams or has another position at the same time. As a result, he cannot devote enough time to each of the teams. This leads to negligence on his part, for example when he fails to deliver important information on time. It may also happen that the interests of particular teams or roles are contradictory. This will result in a lack of trust and important information or problems will be kept secret from him. Thus, the company should not allow for holding several positions at the same time. In order to have the team's full commitment and support, Scrum Master must be involved in the operations of one team. Company managers should be aware of the fact that saving on staff does not bring any profit. The profit will come from work of a fully trustworthy and effective team that feels supported by their Scrum Master's everyday activities.

A low rating of Scrum Master may not be due to his lack of knowledge or poor performance. This may be the result of the misunderstanding of the need for such a role by other team members. In this case it is necessary to explain to the team members what this role does and what it is needed for.

In Company X, Sprint Goal specification should be improved as well as the timeliness of task completion so that every team member is aware what goal is to be achieved in a given Sprint. Therefore, it is important that all team members should participate in the specification and express opinion whether they are able to reach the goal in a given time. Their participation will help them understand precisely what they have to complete and give the possibility to ask

questions and dispel doubts. The defined goal should be written down in the central part of the office so that it is not forgotten by them and that they constantly identify with it.

The reference to the concept of a SMART goal leads to the improvement of Sprint Goal specification. The concept includes features of a well formulated goal:

- Specific,
- Measurable,
- Achievable,
- Relevant,
- Time-bound.

It is reasonable to plan a smaller number of tasks in a given Sprint and to complete them on time rather than extend the delivery time of the accepted task. As unexpected situations may always appear resulting in the need to postpone the deadline, planning should always consider random situations.

A proper specification of Sprint Goal will also increase the transparency of Backlog Sprint. In order to keep it as transparent as possible, it is advisable to analyze carefully – preferably in the course of Planning – the elements necessary to achieve the goal. The best practice is to visually present the tasks, e.g. on the blackboard. It is important that the presentation is clear and contains only the necessary information.

The improvement of Retrospective depends mainly on Scrum Master who runs the meeting. To be successful, the meeting must be conducted in a friendly atmosphere. It is important that each attendee actively participates in the meeting and expresses his opinion on his own and other's work.

The significance of Retrospective will increase when the improvements are implemented in subsequent Sprints and the process of implementation is monitored until it is fully completed. It is a good practice to take the last minutes of Retrospective to summarize and thank the team members for cooperation.

## **Conclusions**

Teamwork is a relationship of people who consider themselves an entity and have adequate competences and skills necessary to achieve a common goal. Particular team members accept different roles in line with their predispositions and the needs of the team. They must be



properly motivated to have the sense of belonging and see the point in achieving the desired results.

Teams are formed to perform various tasks in separate economic areas. This requires the use of appropriate types of teams.

Communication is a key element in any type of team; it does not only involve the exchange of information but also increases the sense of security by learning about the attitudes and feelings of the others as well as identifying problems in their early phases. It supports decision-making processes and the control and coordination of activities in the team.

Scrum is one of the increasingly popular method of self-organizing teams which consists of a set of iterative work principles. The essence of the method is the lack of hierarchy in the team. Scrum involves specific events, roles and artefacts.

The results of the Authors' survey among the employees of Company X lead to the conclusion that the use of Scrum methodology results in the increase in work efficiency. The majority of the aspects of the method were assessed positively by the respondents, which shows that following the Scrum principles guarantees its implementation. The main element for improvement in Company X is the role of Scrum Master which did not receive half of the positive ratings from the respondents.

In conclusion, Scrum methodology - when applied in line with its assumptions – fulfills its role and is favorably received by the employees; small improvements will allow for a full use of its potential.

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***Abstract***

Scrum methodology is one of the approaches in Agile project management. Scrum is a type of iterative teamwork. Moreover, Scrum is a description of a set of meetings, tools or roles which, when combined with one another, help work teams organize and manage work. The article presents the concept of teamwork based on Scrum methodology; analysis was made of the Scrum-based teamwork in Company X and improvements were proposed of the Scrum team functioning in the company under investigation.

***Key words***

Teamwork, types of work teams, communication in a team, Scrum, self-organizing teams.